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Request for Continued Examination (RCE) Transmittal

Address to:
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Alexandria, VA 22313-1450

Application Number	09/681,992
Filing Date	07/05/2001
First Named Inventor	Sam Shiaw-Shiang Jiang
Art Unit	2131
Examiner Name	Jackson, Jenise E
Attorney Docket Number	ASTP0013USA

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. Submission required under 37 CFR 1.114 Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

   a. ☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

      i. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

      ii. ☐ Other _____

   b. ☑ Enclosed

      i. ☑ Amendment/Reply

      ii. ☐ Affidavit(s)/ Declaration(s)

      iii. ☐ Information Disclosure Statement (IDS)

      iv. ☐ Other _____

2. Miscellaneous

   a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

   b. ☐ Other _____

3. Fees The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

   a. ☑ The Director is hereby authorized to charge the following fees, or credit any overpayments, to Deposit Account No. 50-3105. I have enclosed a duplicate copy of this sheet.

      i. ☑ RCE fee required under 37 CFR 1.17(e) USD 790.00

      ii. ☐ Extension of time fee (37 CFR 1.136 and 1.17)

      iii. ☐ Other _____

   b. ☐ Check in the amount of $ _____ enclosed

   c. ☐ Payment by credit card (Form PTO-2038 enclosed)

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Signature	Winston Hsu	Date	09/12/2006
Name (Print/Type)	Winston Hsu	Registration No.	41,526

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Signature	Janice Chen		
Name (Print/Type)	Janice Chen	Date	09/12/2006

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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LOCAL SUSPEND FUNCTION AND RESET PROCEDURE IN A WIRELESS COMMUNICATIONS SYSTEM

Appl. No.	:	09/681,992	Confirmation No.: 1171
Applicants	:	Sam Shiaw-Shiang Jiang, Richard Lee-Chee Kuo	
Filed	:	July 5, 2001	
TC/A.U.	:	2131	
Examiner	:	Jackson, Jenise E	
Docket No.	:	ASTP0013USA0	
Customer No.	:	27765	

Commissioner for Patents
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AMENDMENT AND REQUEST FOR CONTINUED EXAMINATION

Sir:

In response to the Office action of 09/26/2005 and the Advisory Action of 06/29/2006, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 5 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): An interleaved local suspend and reset method for a wireless communications system, the wireless communications system comprising a first station in wireless communications with a second station along at least one channel, the method comprising:

the first station initiating a local suspend function for the channel to perform a ciphering configuration change at [[,]] a suspend point determined by a first sequence number (SN);

prior to a resume command to terminate the local suspend function, initiating a reset procedure for the channel, the reset procedure causing a next layer 2 protocol data unit (PDU) to be transmitted to have an SN equal to a default value;

in response to the reset procedure, setting the first SN of the suspend point equal to the default value; and

awaiting the resume command for the channel to terminate the local suspend function;

wherein the default value is zero.

Claim 2 (Previously Presented): The method of claim 1 wherein setting the first SN of the suspend point equal to the default value causes the first station to thereafter immediately halt transmission of layer 2 PDUs to the second station along the channel while the local suspend function for the channel is active.

Claim 3 (Original): The method of claim 2 wherein the suspend point comprises a hyper-frame number (HFN) associated with the SN of the suspend point, and in response to the reset procedure, the HFN is set equal to a transmitting HFN of the first station.

Claim 4 (Original): The method of claim 1 wherein a prior ciphering configuration for the channel is used before the resume command, and a new ciphering configuration is used for the channel after the resume command.

Claim 5 (Currently Amended): An interleaved local suspend and reset method for a wireless communications system, the wireless communications system comprising a first station in wireless communications with a second station along at least one channel, the method comprising:

the first station initiating a local suspend function for the channel to perform a ciphering configuration change at [[,]] a suspend point determined by a first sequence number (SN) and a first hyper-frame number (HFN) to form a first HFN/SN pair;

prior to a resume command to terminate the local suspend function, initiating a reset procedure for the channel, the reset procedure causing a next layer 2 protocol data unit (PDU) to be transmitted have an associated HFN/SN pair having an incremented HFN value and an SN value equal to zero;

after the reset procedure, and prior to terminating the local suspend function, the first station transmitting along the channel to the second station no layer 2 PDUs having associated HFN/SN pairs that are sequentially after the first HFN/SN pair; and

awaiting the resume command for the channel to terminate the local suspend function.

Claim 6 (Original): The method of claim 5 wherein a prior ciphering configuration for the channel is used before the resume command, and a new ciphering configuration is used for the channel after the resume command.

Claim 7 (Original): The method of claim 5 wherein after the reset procedure, and prior to

terminating the local suspend function, the first station transmits along the channel to the second station layer 2 PDUs having associated HFN/SN pairs that are sequentially before the first HFN/SN pair.

REMARKS/ARGUMENTS

Request for Continued Examination:

The applicant respectfully requests continued examination of the above-indicated application as per 37 CFR 1.114.

The amendments made to the claims in the above section are over the last entered amendment filed July 21, 2005.

Examiner's Comments:

2. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Cao (6,876,639).

3. As per claim 1, Cao discloses an interleaved local suspend and reset method for a wireless communication system (see col.9, lines 15-45), the wireless communications system including a first station in wireless communications with a second station along at least one channel (see col.4, lines 6-23), the first station initiating a local suspend function for the channel (see col.4, lines 23-30) to perform a ciphering configuration change (see col.6, lines 25-51), a suspend point determined by a first sequence number (SN); prior to a resume command to terminate the local suspend function, initiating a reset procedure for the channel (see col.4, lines 39-56, the reset procedure causing a next layer 2 protocol data unit to be transmitted have an SN equal to default value (see col.9, lines 15-45); in response to the reset procedure, setting the first SN of the suspend point equal to [[a]] the default value; and awaiting the resume command for the channel to terminate the local suspend function, wherein the default value is zero (see col.4, lines 51-64, col.9, lines 15-45, col.6, lines 40-51).

7. As per claim 5, Cao discloses an interleaved local suspend and reset method for a wireless communications system (see col.9, lines 15-45), the wireless

communications system comprising a first station in wireless communications with a second station along at least one channel (see col.4, lines 6-23), to perform a ciphering configuration change (see col.6, lines 25-51), the first station initiating a local suspend function for the channel a suspend point determined by a first sequence number (SN) and a first hyper-frame number (HFN) to form a first HFN/SN pair (see col.4, lines 23-56); prior to a resume command to terminate the local suspend function, initiating a reset procedure for the channel, the reset procedure causing a next layer 2 protocol data unit (PDU) to be transmitted have an associated HFN/SN pair having an incremented HFN value and an SN value equal to zero (see col.4, lines 39-56, col.6, lines 40-51); after the reset procedure, and prior to terminating the local suspend function, the first station transmitting along the channel to the second station no layer 2 (PDUs) having associated HFN/SN pairs that are sequentially after the first HFN/SN pair; and awaiting the resume command for the chaneel to terminate the local suspend function (see col.9, lines 15-45).

10. The applicant states that Cao does not disclose a reset procedure causing a next layer 2 PDU to be transmitted have an SN equal to a default value wherein the default value is zero. The Examiner disagrees with the Applicant. Cao discloses that a TCPHN algorithm receives a notification from the physical layer that the mobile host is in handoff, the TCPHN variable to denote the handoff (see col. 6, lines 40-46). The TCPHN may be in a binary state variable or any other type of state suited to denote the beginning and the end of a mobile handoff. The TCPHN could be a binary state variable set to a non-zero value when a handoff is in progress and set to zero when a handoff is not in progress. The TCPHN could be set to zero to denote a handoff is in progress and to non-zero value otherwise (see col. 6, lines 40-51).

Advisory Action. The applicant states that Cao does not disclose a sequence number in the acknowledgement packet is changed to any default value. The Examiner disagrees with the Applicant. Cao discloses if the server is no

longer available, the value is set to zero. The Examiner asserts that this is a default value (col. 7, lines 12-25).

Applicant's Response:

1. The amendments to claim 1 and claim 5 "to perform a ciphering configuration change" is merely to correct an error in the previous response. This limitation was added to claims 1 and 5 in the response to the first office action for this application and mistakenly omitted in the subsequent response. This can be verified by the USPTO PAIR page showing this limitation in claims submitted on 12/24/2004 and accidentally missing from the claims submitted on 07/21/2005. Please note that there is no indication anywhere of intent on the applicant's part to remove this limitation from claims 1 and 5. Additionally, the Examiner's comments in the final and non-final Office actions reflect clear knowledge and awareness of this limitation in claims 1 and 5 at the time when the present application was being examined utilizing the currently utilized prior art (Cao). No new matter has been introduced and no new issues have been raised by these amendments. Additionally in the amendment, "at" is added in claim 1 and claim 5 to clarify that the suspending point is the point where new ciphering configuration should be started. This is supported in line 33 p. 19 – line 3 p. 20.

2. Concerning the Examiner's comments numbers 3 and 7, the examiner quoted Cao's col. 6, lines 25-51 to indicate that Cao discloses the suspend function performs a ciphering configuration change. The Applicant cannot find any indication of ciphering configuration change throughout the teachings of Cao, explicitly or implicitly. The subject discussed by Cao is to improve the transmission performance of TCP data packets during handoff in a wireless communication system. No ciphering configuration problem is involved or

implied by Cao in the whole disclosure. Specifically, within col. 6, lines 25-51 as quoted by the Examiner, Cao describes how to maintain two variables, TCPHN-H and LAST-ACK. No ciphering configuration change is hinted within col. 6, lines 25-51.

3. Concerning the Examiner's comment number 10 and the comments in the Advisory Action, claims 1 and 5 each contain the limitation of the reset procedure causing a next layer 2 protocol data unit (PDU) to be transmitted have an sequence number (SN) equal to a default value of zero.

Although Cao teaches in col. 6, lines 40-46 and 40-51 that the TCPHN variable could be set to zero to denote a handoff is in progress and to non-zero value otherwise, the TCPHN variable is not a sequence number. And is instead a transfer control protocol handoff notification (col.5, lines 27-30). For more information about Cao's acknowledgement packet **40**, please refer to Cao's Fig. 4. The TCPHN flag **53** in the acknowledgement packet is set to indicate handoff (see col. 8, lines 28-29) and is not a sequence number. Although the acknowledgement packet **40** contains a Sequence Number field **46**, Cao does not teach that the Sequence Number field **46** in the acknowledgement packet is changed to any default value.

Similarly, the TCP-H variable mentioned in col. 7, lines 12-25 is also a binary state variable that can be set to a nonzero value during a handoff and reset to zero when not in a handoff. The TCP-H variable is not a sequence number, and therefore does not read on the claimed limitations of the reset procedure causing a next layer 2 protocol data unit (PDU) to be transmitted have an sequence number (SN) equal to a default value of zero.

When the handoff finishes, the TCP context is reset to the last acknowledged packet and normal TCP transmission is resumed at step **6A-13** (see col. 9, lines 31-41). Since the context indicates the frozen congestion window size, the slow start threshold and the last byte that was acknowledged (see col. 4, lines 54-56) and the Sequence Number in the last acknowledged packet is not changed when the TCP context is reset, the SN of the next TCP data packet to be transmitted after TCP transmission resume is not specified to any default value by Cao.

5. Concerning the Examiner's comments numbered 4, 5, 6, 8, and 9 in the final Office action, because the allowability of dependent claims ultimately depend upon the allowability of their respective base claims and it is believed that base claims 1 and 5 should be allowable, Applicant respectfully requests reconsideration of claims 1-7 and that a timely Notice of Allowance be issued in this case.

In view of the claim amendments and the above arguments in favor of patentability, the applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Sincerely yours,

Winston Hsu Date: 09/12/2006

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Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)